

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-004630**Date Inspected:** 14-Nov-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Sun Wei**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower & OBG**Summary of Items Observed:**

The Caltrans (CT) Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the Tower and Orthotropic Box Girders (OBG).

OBG Sub-Assembly Bay 1:

The QA Inspector randomly observed 4 ZPMC welders ID Numbers 059443/059468 and 059416/059378, utilizing the Gas Metal Arc Welding (GMAW) Process in 2G/2F Positions on Gantry 1 with ZPMC Weld Procedure Specification (WPS)-B-T 2342-U1(U-Rib)-4, to weld the U-Ribs to Deck Plate DP339-00 Location(9BE), at Weld Joint (WJ) Numbers 001/002 and 005/006. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 369/372 amps, 30.3/30.3 volts (001/002) and 371/367 amps, 30.5/31 volts with a travel speed of 532 millimeters (mm) per minute. Weld parameters appeared to comply with contract requirements.

OBG Sub-Assembly Bay 2:

The QA Inspector randomly observed 4 Magnetic Drill Operators drilling bolt holes in Skin Plate Stiffeners A709 HPS 485 piece mark A571 (E).

OBG Sub-Assembly Bay 3:

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The QA Inspector randomly observed ZPMC welders Shi Wei ID 053859 and Zhao Quan Li ID 046813, utilizing the Shielded Metal Arc Welding (SMAW) Process in 2F Position with ZPMC WPS WPS-B-P-2112, to weld tack weld T-Ribs during fit up to Bottom Plate BP095-001 at WJ's 015/016 and 017/018 respectively. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welders ID Numbers 203204, 048920, 201725 and 056819 utilizing the SMAW Process in 2F Position with ZPMC WPS WPS-B-P-2112, to weld tack weld T-Ribs during fit up to Bottom Plate BP149-001 at WJ's 007/008, 009/010, 015/016 and 017/018. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Gu Cai Hong ID 053748 utilizing the Submerged Arc Welding (SAW) Process in the 1G Position with ZPMC WPS WPS-B-T-2221-B-L2c-S-2, to weld a butt splice between sections of 22 mm A709 GR 345F2 Steel Plate to be cut length wise for I-Ribs to be used on Side Plates SP466 and SP434. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 585 amps, 30.2 volts with a travel speed of 512 mm per minute. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

OBG Bay 4:

The QA Inspector randomly observed ZPMC welders ID Numbers 066179, 066456, 037779 and 066459, utilizing the SMAW Process (9018M Electrode) in the 2G Position with ZPMC WPS WPS-B-T-3312-TC-P5, to weld Web Plate piece mark p1554 to 77M Upper Tower Diaphragm at WJ's ESDI-SA424B/B-5/6. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Li Xue Hua ID 058174, utilizing the Flux Cored Arc Welding (FCAW) Process in the 2G Position with ZPMC WPS WPS-B-T-2312-TC-P4-F-1, to weld Run Off Tabs to the tops of the vertical welds attaching the sections of 62M Tower Diaphragm SA411(W) Flange Plate Assembly SA410. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC Non-Destructive Testing (NDT) Technician Wang Wei, utilizing the Magnetic Particle Testing (MT) Method to perform a final MT examination of the cover pass of the fillet welds on Side Plate Sub-Assembly SP619A Yellow Tag 001645 (SP619-001 Location 8BE) WJ's 013 through 024 and SP579A Yellow Tag 001646 (SP579-001 Location 8BE) WJ's 013 through 024. There appeared to be no indications and ZPMC QC accepted all the above listed welds.

The QA Inspector performed a 10% final Visual (VT) and MT verification on the cover pass of the fillet welds on Side Plate Sub-Assembly SP619A Yellow Tag 001645/Green Tag 001664 (SP619-001 Location 8BE) WJ's 013 through 024 and SP579A Yellow Tag 001646/Green Tag 001665 (SP579-001 Location 8BE) WJ's 013 through 024. There appeared to be no indications the QA Inspector accepted all of the above listed welds. The attached photograph provides additional detail.

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Summary of Conversations:

As noted in the above body of this report.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Joshua Ishibashi, 13764710411, who represents the Office of Structural Materials for your project.

Inspected By: Franco,Charlie

Quality Assurance Inspector

Reviewed By: Wright,Mark

QA Reviewer